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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,928	06/21/2001	Tatsuo Ozaki	4041K-000023	6210
27572	7590	11/26/2003	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			PATEL, NIHIR B	
			ART UNIT	PAPER NUMBER
			3743	
			DATE MAILED: 11/26/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,928

Applicant(s)

OZAKI ET AL.

Examiner

Nihir Patel

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 22nd, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2, 4, 6, 8, and 12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 7, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kado US Patent No. 5,236,042 in view of Kato US Patent No. 6,073,688.

Kado discloses the applicant's invention as claimed with the exception of providing a plurality of metallic tubes through which fluid flows in a fluid flow direction and a header tank that comprises concave and convex portions formed in a portion of the long side wall surface of the rectangular cross section of the header tank.

Kato discloses a flat tubes for heat exchanger that does provide a plurality of metallic tubes through which fluid flows in a fluid flow direction and a header tank that comprises concave and convex portions formed in a portion of the long side wall surface of the rectangular cross section of the header tank. Therefore it would be obvious to modify Kado's invention by providing a plurality of metallic tubes through which fluid flows in a fluid flow direction and a header tank that comprises concave and convex portions formed in a portion of the long side wall

surface of the rectangular cross section of the header tank in order to increase the heat transfer rate.

Plastic deformation is a method of manufacturing and is given no weight to an apparatus claim. Since the applicant has not mentioned the advantages of having concave and convex portions formed in a portion of the long side wall surface of the rectangular cross section of the header tank by plastic deformation, it simply a matter of design choice the concave and convex portions formed in a portion of the long side wall surface of the rectangular cross section of the header tank could have been manufactured by stamping method.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kado US Patent No. 5,236,042 in view of Lu US Patent No. 5,482,114.

Kado discloses the applicant's invention as claimed with the exception of providing reinforcements and respective mounting member that are formed separately from each other.

Lu discloses a charged air cooler mounting bars that does provide reinforcements and respective mounting member that are formed separately from each other. Therefore it would be obvious to modify Kado's invention by providing reinforcements and respective mounting member that are formed separately from each other to dismount the heat exchanger if it were to malfunction and to reduce the cost of manufacturing.

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Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30am to 4:30pm. If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor Henry Bennett can be reached at (703) 308-0101.

NP
November 19, 2003

Henry Bennett
Supervisory Patent Examiner
Group 3700

